

## SHORTER NOTES

***Botrychium lanceolatum* subsp. *angustisegmentum* in Ohio.**—In the treatment of Ophioglossaceae, (1993, pp. 85–106, in FNA Editorial Committee, *Flora of North America North of Mexico, Volume 2. Pteridophytes and Gymnosperms*) Wagner and Wagner reported the distribution of the narrow triangle moonwort, *Botrychium lanceolatum* subsp. *angustisegmentum*, as encompassing an area extending from Ontario's Lake Superior coastline to eastern Quebec and southern Labrador, south along the Appalachian Mountains to westernmost Virginia and North Carolina and easternmost Tennessee and Kentucky, and extending west to northern Wisconsin and the northwest corner of Minnesota. A disjunction occurs in the northern Rocky Mountains from northwestern Montana to northern British Columbia and the southern Northwest Territories. All but the southwestern corner of Ohio was included in the distribution of the subspecies. However, for 2000–2001 the Ohio Department of Natural Resources listed *B. lanceolatum* as extirpated because no Ohio collections were documented for a period of over 20 years (Ohio Department of Natural Resources. 2000. Ohio Rare Plant List. <http://www.ohiodnr.com/dnap/heritage/plantlst.html>). We report here two Ohio populations of *B. lanceolatum* subsp. *angustisegmentum* that confirm the continued presence of the species in Ohio.

While examining *Botrychium* specimens at the University of Michigan Herbarium (MICH) we encountered a 1970 collection (*Wagner and D. Demay 70467A*) of the species from Cantwell Cliffs in Hocking Hills State Park, Hocking Co., OH. In June of 2000 we searched Cantwell Cliffs for *B. lanceolatum* subsp. *angustisegmentum* and found approximately 15 sporophytes growing in a level, beech-maple mesophytic forest immediately adjacent to a small stream. Infrequent disturbance of the site by flooding appears probable. Woody species closely associated included *Acer saccharum* Marshall, *Fagus grandifolia* Ehrh., *Tsuga canadensis* (L.) Carrere, *Liriodendron tulipifera* L., *Lindera benzoin* (L.) Blume, and *Ulmus rubra* Muhl. Herbaceous associates included *Asarum canadense* L., *Cimicifuga racemosa* (L.) Nutt., *Osmorhiza longistylis* (Torr.) DC., and *Tiarella cordifolia* L. Pteridophytes at the site were *Dryopteris intermedia* (Muhl. ex Wild.) A. Gray, *Osmunda cinnamomea* L., *Sceptridium dissectum* (Spreng.) Lyon, and *Thelypteris noveboracensis* (L.) Nieuwl. A brief search in June 2001 revealed only eight individuals. This past June (2002) we intensively searched the site and found 69 sporophytes. A voucher specimen (*Hauk et al. 626*) was deposited at the Ohio State University Herbarium (OSU). Collections between 1970 and 2000 are not known (to us), and re-establishment may explain the current presence of the population. However, it seems more probable that this population has remained intact for at least the last 30 years, and the demography of other Ophioglossaceae species is consistent with this hypothesis

(Montgomery, 1990, Amer. Fern J. 76:7; Kelley, 1994, New Zealand J. Bot. 32:393–400; Johnson-Groh, 1997 in Report to Minnesota Dept. Nat. Resources, St. Paul, MN).

A second population of 14 *B. lanceolatum* subsp. *angustisegmentum* plants was discovered in Ashtabula Co., OH in August of 2001 by James Bissell of the Cleveland Museum of Natural History (CLM). The population was located beneath a rich mixed forest on a river terrace of the Ashtabula River in Sheffield Twp. with a canopy predominately of *Acer saccharum* and *Liriodendron tulipifera* and some scattered *Tsuga canadensis*. A voucher (JKB:2001:110) was deposited at CLM. The physical distance between the Hocking Co. and Ashtabula Co. sites (~180 mi.) and their apparent similarities in habitat suggest that *B. lanceolatum* subsp. *angustisegmentum* may occur in similar habitats across portions of Ohio. Thus, the species may be more common in Ohio than our current knowledge indicates, and its small size probably contributes to its oversight by collectors. We thank Jessica Budke, Emily Gerstle, Heather Hawke, and Larkin Kennedy for field assistance. We also thank James Bissell and Jim McCormak for providing information on the Ashtabula Co. population.—WARREN D. HAUKE, Department of Biology, Denison University, Granville, OH 43023 and MICHAEL S. BARKER, Department of Botany, Miami University, Oxford, OH, 45056.